

REMARKS

The following remarks are submitted as a full and complete response to the outstanding Action. By this Amendment, the specification has been amended to correct certain informalities, and claims 1 and 3-6 have been amended for editorial considerations and to further set forth the present application. No new matter has been introduced. Claims 1-6 are therefore submitted for consideration.

Objection to Specification

The disclosure is objected to due to certain informalities.

The specification has been amended to address certain informality concerns as set forth in item 1 of the outstanding Action. As such, withdrawal of this objection is respectfully solicited.

Section 112, Second Paragraph Rejection

Claims 4-6 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite

Claims 4-6 have been amended to address certain indefiniteness concerns as set forth in item 3 of the outstanding Action. As such, withdrawal of this rejection is respectfully solicited.

Section 102 Rejection

Claim 1 has been rejected under 35 U.S.C. §102(b) as being anticipated by Kajino, et al. (U.S. Patent No. 5,857,380, hereinafter “*Kajino*”).

The present invention is directed to an engine starting apparatus which uses a new speed-reduction and power-cut-off mechanism to reduce the rotational speed of a starter motor. Particularly, the speed-reduction and power-cut-off mechanism eliminates the need for a one-way clutch on a pinion drive gear in order to provide power transmission between the pinion drive gear and an output shaft of a planetary gear speed reduction mechanism, thereby reducing impact noises from the drive gear during engagement, increasing engine response, and reducing size of a magnet switch (driving unit).

Kajino discloses a starter motor which has a speed reduction mechanism that includes, *inter alia*, a one-way clutch 6 on a pinion 65 for providing power transmission between a drive shaft 4 and a planetary gear reduction device (Fig. 2). Particularly, the rotational speed is transmitted to the pinion 65 through a sun gear 10, planetary gears 30, the draft shaft 4, a spline tube 60, and the on-way clutch 6 (see 5: 6-9).

As such, it is respectfully submitted that ***Kajino*** does not disclose, teach or suggest the speed-reduction and power-cut-off mechanism of the present invention that replaces a one-way clutch by incorporating functions of the one-way clutch. Instead, ***Kajino*** merely discloses using a conventional one-way clutch in a manner as taught by conventional art. Claim 1 has been amended to more particularly set forth such distinction.

Additionally, it is noted that item 5 of the outstanding Action does not refer to any particular portion of *Kajino* as teaching the speed-reduction and power-cut-off mechanism. Nonetheless, the speed-reduction and power-cut-off mechanism as set forth in claim 1 has been further defined to include one-way clutch functions as discussed above.

Section 103 Rejections

Claims 2, 3 and 5 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Kajino* in view of Otaki et al. (U.S. Patent No. 5,931,759, hereinafter "*Otaki*").

Otaki discloses a friction-roller-type speed changer for decelerating or accelerating a rotating force in a drive unit. Particularly, wedge rollers 12a-c can each move in a circumferential direction with an annular space 10 to transmit rotational force to function as a decelerator or accelerator (see Fig. 4). *Otaki* also states that a single-direction clutch can be omitted by the presence of such friction-roller speed changer of a wedge-roller type (1:65 to 2:2).

Since *Otaki* also does not teach or suggest the above-discussed distinctions as now set forth in claim 1 regarding the speed-reduction and power-cut-off mechanism that replaces a one-way clutch by incorporating functions of the one-way clutch, claims 2 and 3, which directly or indirectly depend from claim 1, are also patentable over *Kajino* and *Otaki* for the at least the above-discussed reasons.

Referring to claim 5, which has been amended to also incorporate the above-discussed distinctions as now set forth in claim 1, it is also patentable over ***Kajino*** and ***Otaki*** for the at least the reasons stated above with respect to claim 1.

Claims 4 and 6 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Kajino* in view of *Otaki* and further in view of Nelson et al. (U.S. Patent No. 3,945,270, hereinafter "*Nelson*").

Nelson is specifically cited for supplementing the acknowledged deficiency in both ***Kajino*** and ***Otaki*** regarding lubricants between traction rollers and rotational shaft. However, since ***Nelson*** also lacks the above-discussed deficiency in ***Kajino*** and ***Otaki*** regarding the one-way clutch functions, the present invention as set forth in claims 4 and 6 are also patentable for at least the reasons stated above with respect to claims 1 and 5 from which claims 4 and 6 depend, respectively.

In view of the foregoing, reconsideration of the application, withdrawal of the outstanding objection and rejections, allowance of claims 1-6, and the prompt issuance of a Notice of Allowability are respectfully solicited.

If this application is not in condition for allowance, the Examiner is requested to contact the undersigned at the telephone listed below.

In the event this paper is not considered to be timely filed, Applicants hereby petition for an appropriate extension of time. The fee for this extension may be charged to our Deposit Account No. 01-2300.

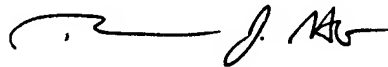
Pursuant to the duty of disclosure under 37 CFR 1.56, concurrently submitted herewith is a related art reference which became known to those involved in the

preparation or prosecution of this application, and which the Examiner may deem relevant to patentability of the claims.

The Commissioner is hereby authorized to charge any fee deficiency or credit any overpayment associated with this communication to Deposit Account No. 01-2300.

Respectfully submitted,

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